

IPM for Pigeons in Schools

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Pigeons not only make themselves a nuisance by their roosting and nesting activity and their noisy behavior, but they also carry and transmit a variety of human and avian diseases. Pigeons and their nests can also harbor a number of ectoparasites that are known to attack humans.

Pigeon droppings deface buildings and statues and their acidity can hasten the deterioration of these structures. Droppings can foul areas where people walk, sit, or work and in large amounts can kill vegetation and produce flies and objectionable odors. Droppings that accumulate on stairs, fire escapes, or other walking surfaces make these areas slippery and dangerous. Debris from pigeons and their nests can clog gutters, downspouts, and drains.

Pigeons are known to carry and transmit diseases to humans through their droppings, especially when the feces dry and particles become airborne. It is rare for health officials to specifically attribute disease outbreaks to flocks of pigeons. The potential for transmission however is real and should be taken seriously when these birds live in close proximity to humans. Diseases spread by pigeons include aspergillosis, candidiasis, cryptococcosis, encephalitis, histoplasmosis, Newcastle disease, ornithosis, salmonellosis, and toxoplasmosis.

Biology

Typically, the feral pigeon (*Columba livia*) has a gray body with a whitish rump, two black bars on the secondary wing feathers, a broad black band on the tail, and red feet. Color variations include brown, rust, mostly white, and blackish.

Pigeons are gregarious birds that flock together in groups of several hundred. They move about, feed, and fly together. Each feeding flock is associated with a particular food source, but the individuals in a feeding flock may disperse to other flocks that roost and loaf in different areas, some close to the food source and some distant. Roosting, nesting, and loafing (daytime resting) sites tend to be located in high, protected areas, such as building ledges and roofs, drain spouts, steeples, and other architectural details that provide suitable space. Being creatures of habit, pigeons routinely feed, nest, and roost in the same places.

In rural areas pigeons feed on grain and seeds such as corn, wheat, rye, barley, millet, sunflower seeds, and rape seeds. In urban areas, they scavenge for bread, garbage, fruits, greens, and weed seeds. Pigeons occasionally feed on insects and livestock manure. Like chickens, pigeons need grit in their crop to grind up their food.

Pigeons have several broods per year, and sometimes lay a new clutch of eggs in the nest before the fledglings are out. Although breeding continues year around, it peaks in spring and summer.

Detection and Monitoring

A detailed and accurate survey is necessary before you design a management plan. You will need to consider all the factors that affect the bird problem including public relations and local, state, and federal laws that impact management methods.

The survey process may be time consuming and labor intensive, but the effectiveness of your manage-

ment plan will depend on it. You will need a pair of binoculars to scan trees, and the ledges, windowsills, and roof areas of tall buildings. All the information you gather must be written down on a monitoring form (see **Appendix K** for a sample form).

You may need to perform your survey over a number of days to understand the movements of the birds. Observe just before dawn, shortly thereafter, in the middle of the day, and again at dusk.

Public Relations

When birds are managed, it is important to remember that the “pest” might be regarded fondly by nature enthusiasts. Good public relations are an essential element in the success of a school IPM program, but particularly where birds are concerned. Describe the health hazards and point out the ecological relationship between pest birds and other urban pests. For instance, rats often feed on dead pigeons and on food left for pigeons.

Feral pigeons are not protected by federal or state statute. The taking of banded homing pigeons however, is a misdemeanor. There may be municipal restrictions on the methods used to take feral pigeons. Be sure to ask your local County Office of Agriculture about any local restrictions on pigeon management.

Management Options

A number of management options are available, including habitat modification, exclusion and physical controls.

Habitat Modification

Prohibiting Bird Feeding

No one should be allowed to feed pigeons on school grounds, and if possible, nearby. Other control measures will not be effective if people are providing birds with food. Birdseed mixes can

spread weed seeds, and bread or other foods can attract rodents.

Sanitation

Proper sanitation will greatly reduce the attractiveness of an area to pigeons. If children eat lunch outside, it is particularly important to remove all spilled food promptly after lunch. Provide an adequate number of garbage cans, and train children to put garbage inside the can. Garbage cans on school grounds should have removable domed tops with vertical spring-loaded swinging doors. The cans should be emptied frequently enough to prevent the contents from impeding the closure of the lid. Periodically clean the lids and cans of food wastes.

Eliminating Water Sources

Determine where pigeons are drinking and deny them these sources. Repair outside water leaks, eliminate excessive landscape watering that leads to puddling, fix clogged gutters, and exclude pigeons from heating, ventilation, and air conditioning units (HVACs) that provide them with water. Water sources that cannot be eliminated can be treated with a detergent or light oil to make them unpalatable to pigeons.

Exclusion

With all exclusion devices, it is essential to treat each roosting, nesting, and loafing area on the building to completely exclude pigeons from the structure. Otherwise, pigeons will simply move to any untreated areas. None of the exclusion methods listed below will work in every situation. Pest management personnel must evaluate the problem to decide which method is most appropriate and cost-effective.

Close openings in buildings that allow pigeons access to indoor nesting sites. Block these openings

with wood, metal, glass, Plexiglas, masonry, 1/4-inch rust proofed wire mesh, or plastic or nylon netting. Secure netting properly, making sure there are no gaps through which birds can squeeze.

Reduce prime outdoor nesting and roosting areas with netting, porcupine wire, piano wire, monofilament line, electrified wire, or by retrofitting ledges with 45° ramps.

Facility Design

Most pigeon problems on buildings occur because building designs create ideal habitats for these birds. When new buildings or major renovations are being planned, provide architects with information about the link between design elements and pigeon behavior. You might arrange a short tour of the school grounds to view pigeon problems.

Bird Netting

Areas where birds are roosting, loafing, or nesting can be permanently screened off with either metal or plastic bird netting with 1-inch mesh. U.V.-stabilized polypropylene netting is available that can last as long as 10 years. Be sure to close all gaps to keep pigeons from squeezing through.

Pointed Wires

Wire with sharp spikes projecting in all directions is fastened to a solid base that can be easily installed on windowsills, ledges, roof peaks, ornamental architecture, or on wherever pigeons prefer to alight. The sharp points prevent them from landing but do not seriously harm the birds. Proper spacing is essential so that pigeons cannot build nests between the rows of projections. Inspect porcupine wires periodically to make sure that enterprising birds have not covered them with the kind of debris that allows nesting or perching. While proper installation and occasional maintenance

may be expensive, the advantages of permanent control can justify the cost.

Large areas such as storage tanks, air conditioning units and wide ledges can be protected by a device made of long, spring-loaded and weighted wires that extend from a fixed base in all directions over the area. The wires move and bounce in the wind, preventing pigeons from roosting or nesting.

Piano-type Wire, Monofilament Line

Protect narrow beams, roof edges, cables, and pipes by installing a tightly stretched 16 to 18 gauge wire or 80-lb. test monofilament line one to two inches above the surface. This wire interferes with bird perching and take off. Attach “L” brackets to each end of the area above which the wire will be suspended, string the wire across, and take out the slack with turnbuckles. Weld the brackets to the surface or attach them with cable clamps or aircraft hose clamps. Do not use radiator clamps because they frequently become stripped under the high torque load.

Electrified Wires

These wires can be used on rooftops and other areas where people will not encounter them. Electrified wires are an expensive, but permanent exclusion device. They require somewhat more maintenance because accumulations of dirt, sticks, leaves, and other debris can cause shorts. These devices are similar to electric fences used for deer and other animals and work by delivering a shock that repels pigeons but doesn't kill them.

45° Angle Ramps

Pigeons cannot land or roost on surfaces with a 45° or steeper angle. Use sheet metal, concrete, stone, wood, Styrofoam blocks, or other materials to retrofit ledges with a ramp of the desired angle. It is important that the surface of the ramp be fairly

smooth. If the surface is rough enough, pigeons can occupy even steeply pitched areas.

Frightening Devices

There are numerous devices on the market for frightening birds, ranging from small cannons to rubber snakes. None of these is effective against pigeons.

Physical Controls

Nest Removal

This technique should be used in conjunction with other control methods. Persistent removal of nests every 14 days may be necessary, and if the area is not modified to exclude pigeons, they will continue to rebuild their nests. Use a long pole to knock nests from ledges. Clean up debris with a heavy-duty vacuum with a HEPA filter.

Since pigeon nests may harbor ectoparasites, and pigeon droppings can transmit diseases, pest management personnel should wear protective clothing when removing nests. This clothing includes coveralls, a hood or hat, respirator, goggles, and gloves. Wear boots and tape the legs of the coveralls around them. Tape sleeves to gloves. Clothing can be sprayed with an insect repellent as an extra precaution.

Sticky Repellents

These sticky, non-toxic pastes and gels can be applied to ledges or other roosting areas to prevent birds from landing. Clean all surfaces to be treated, and if the surface is a porous one, such as stone, concrete, brick, or wood, apply a liquid sealer or strips of impervious tape so the repellent will not be absorbed. All potential roosting areas must be treated, otherwise birds will move to untreated areas.

Apply repellents with a caulking gun, or with a sprayer or paintbrush if you are using a thinner liquid formulation. Apply in one-half-inch strips no more than three inches apart, so birds will be repelled without becoming entangled.

Dirt and debris will foul repellents so they must be re-applied each year. In very dusty areas, you may have to renew them more often. Heavy gel formulations tend to last longer than the thinner, spray-on formulations.

Sticky repellents can melt and run down the sides of buildings in hot weather, and can harden and become ineffective in cold weather. Creative pigeons will sometimes drop debris on the gels and nest anyway.

Trapping

A nationwide survey of 464 wildlife or pest management specialists including Agricultural Commissioners and Cooperative Extension Agents showed that 83% of respondents rated trapping as a “moderate to excellent” control for pigeons (Gorenzel et al., 2000). As with any kind of trapping, experienced personnel will have greater luck than novices.

The bob-type trap is perhaps the most effective (see **Figure 8.3-1** [trap plans]). Available in several sizes, the bob-type trap works by luring pigeons through a one-way swinging door into an entrance scattered with grain.

To accustom the birds to the trap, scatter bait around and in the trap tying the bobs up and out of position. Use cracked corn, wheat, milo, oat groats, millet, popcorn, sunflower seeds, peas, bread, or peanuts. Leave the trap open until the birds have no fear of walking in to eat the bait, then release the bobs to put the trap into operation.

Placing live decoy pigeons inside the trap, as well as food, water, and shade, will improve trap effectiveness. Be sure to treat birds in traps humanely. The California Penal Code Section 597 states that failure to provide animals with “proper food, drink, or shelter or protection from the weather is a punishable offense.” Check traps at least every other day. Leave no more than one to five decoy birds in the trap because too much activity in the trap may decrease catches. If you catch racing pigeons (they will have a leg band), release them or hold them for their owners.

Place traps where pigeons regularly roost, use a number of traps, and move them if you fail to catch birds.

Birds removed from traps should be killed, because even if they are released a great distance from the site, their homing abilities will ensure that they return. Pigeons can be euthanized by cervical dislocation. Activities such as these should not be conducted while children are at school.

Biological Controls

Birds of prey, such as falcons and hawks, have been established in some cities and National Park facilities to aid in pigeon control, but the public has usually objected strongly to observing raptors capturing pigeons. Natural predation from birds of prey will not provide satisfactory pigeon control.

Chemical Controls

If non-chemical methods alone prove insufficient to solve the problem, then integrating a pesticide into your management program may be warranted. Consult your local county office of the University of California Cooperative Extension for advice about the use of particular chemicals. They specialize in helping people with questions about pest problems. You can find your county office in the

phone book or online at <http://danr.ucop.edu/regional.htm>. You can search for specific registered products in the DPR product and label database at <http://www.cdpr.ca.gov/>

Pesticides must be used in accordance with their U.S. EPA-approved label directions. Applicators of restricted use materials must be certified to apply pesticides. Pesticide applicators should always wear protective gear during applications. All labels and Material Safety Data Sheets (MSDS) for the pesticide products authorized for use in the IPM program should be maintained on file. Do not apply these materials when buildings are occupied, and never apply them where they might wash into the sanitary sewer or into outside storm drains.

When pesticides are needed, they should be applied in bait form. A pesticide product deployed in the form of a self-contained bait or trap, to gel or paste deployed as a crack and crevice treatment is exempt from the posting and notification requirements of the Healthy Schools Act.

There are three types of chemical control agents for pigeons: chemosterilants for birth control, psychochemical frightening agents, and avicides (chemicals used to kill birds). None of these chemical agents is recommended because the use of habitat modification, sanitation, exclusion, and trapping alone have been proven highly effective by many pest control operators around the country.

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Figure 8.3-1

A Bob-Type Pigeon Trap

(Low- Profile Design)

